

CLAIMS

Listing of claims:

1. (Previously Presented) A computer-implemented method for generating a persistent storage system, the method comprising the steps of:
 - receiving as input an entity definition of a persistent storage structure, wherein the entity definition comprises a declaration of an object, one or more properties of the object, and a data type for each property;
 - parsing a logical structure of the declared object from the entity definition by a processor, wherein the logical structure includes hierarchical associations between the properties and the data types;
 - generating automatically, by the processor, the persistent storage structure in a persistent storage medium based on the determined logical structure of the declared object;
 - generating automatically, by the processor, an interface within the persistent storage structure, wherein the interface comprises access object classes that are generated automatically by the processor to enable management of object instance data in the persistent storage structure, wherein each object is associated with a respective access object class for performing methods including a method for deleting the object instance data associated with the respective access object class;
 - generating automatically, by the processor, a database table within the persistent storage structure to store the object instance data; and
 - generating automatically, by the processor, an index to object instance data if it is determined that a frequency of accessing the object instance data exceeds a predefined threshold.

2-3. (Canceled)

4. (Original) The method of claim 1, wherein the persistent storage structure comprises a file directory.

5. (Original) The method of claim 1, wherein the persistent storage medium comprises a hard disk, a readable/writeable CD or a floppy disk.

6. (Original) The method of claim 1, wherein the method is implemented in a database system.

7. (Original) The method of claim 6, wherein the database system is a relational database.

8. (Previously Presented) The method of claim 1, wherein the step of automatically generating an interface for accessing the persistent storage medium comprises automatically creating methods for one of storing, retrieving and searching object instance data in the persistent storage medium.

9-10. (Canceled)

11. (Previously Presented) The method of claim 1, further comprising the step of automatically adapting the persistent storage structure or the access interface for a new entity definition.

12. (Original) The method of claim 1, further comprising the step of automatically optimizing the persistent storage system to improve search efficiency or storage scalability.

13. (Previously Presented) The method of claim 1, further comprising automatically creating a cache memory for storing object instance data that is accessed from the persistent storage medium based on the index.

14. (Previously Presented) The method of claim 1, further comprising the steps of:
receiving an object instance declaration; and
automatically populating the persistent storage structure with object instance data.

15. (Previously Presented) A computer-readable medium embodying instructions executed by a processor to perform method steps for generating a persistent storage system, the method comprising the steps of:

receiving as input an entity definition of a persistence storage structure, wherein the entity definition comprises a declaration of an object, one or more properties of the object, and a data type for each property;

parsing a logical structure of the declared object from the entity definition, wherein the logical structure includes hierarchical associations between the properties and the data types;

generating automatically the persistent storage structure in a persistent storage medium based on the determined logical structure of the declared object;

generating automatically an interface within the persistent storage structure, wherein the interface comprises access object classes that are generated automatically to enable management of object instance data in the persistent storage structure, wherein each object is associated with a respective access object class for performing methods including a method for deleting the object instance data associated with the respective access object class;

generating automatically a database table within the persistent storage structure to store the object instance data; and

generating automatically an index to object instance data if it is determined that a frequency of accessing the object instance data exceeds a predefined threshold.

16-17. (Canceled)

18. (Previously Presented) The computer-readable medium of claim 15, wherein the persistent storage structure comprises a file directory.

19. (Previously Presented) The computer-readable medium of claim 15, wherein the instructions for automatically generating an interface for accessing the persistent storage medium comprise instructions for automatically creating methods for one of storing, retrieving and searching object instance data in the persistent storage medium.

20-21. (Canceled)

22. (Previously Presented) The computer-readable medium of claim 15, further comprising instructions for automatically adapting the persistent storage structure or the access interface for a new entity definition.

23. (Previously Presented) The computer-readable medium of claim 15, further comprising instructions for automatically optimizing the persistent storage system to improve search efficiency or storage scalability.

24. (Previously Presented) The computer-readable medium of claim 15, further comprising instructions for automatically creating a cache memory for storing object instance data that is accessed from the persistent storage medium based on the index.

25. (Previously Presented) The computer-readable medium of claim 15, further comprising instructions for performing the steps of:
receiving an object instance declaration; and
automatically populating the persistent storage structure with object instance data.

26. (Previously Presented) A persistent storage system, comprising:
an interface for receiving an entity definition of a persistent storage structure, the entity definition comprising a declaration of an object, one or more properties of the object, and a data type for each property, and for parsing a logical structure of the declared object from the entity definition, wherein the logical structure includes hierarchical associations between the properties and the data types; and

a utility module for automatically configuring the persistent storage structure in a persistent storage medium based on the logical structure and properties of the declared object, wherein the persistent storage structure is automatically configured to comprise:

a persistence module and a storage mapping module for automatically generating a database table within the persistent storage structure for storing object instance data;

an access interface comprising access object classes that are generated automatically to enable management of the object instance data in the persistent storage structure, wherein each object is associated with a respective access object class for performing methods including a method for deleting the object instance data associated with the respective access object class; and

an index creation module for automatically generating an index to object instance data based on access history.

27. (Original) A database system comprising the persistent storage system of claim 26.

28. (Original) An enterprise application comprising the persistent storage system of claim 26.

29. (Canceled)

30. (Original) The system of claim 26, wherein the persistent storage structure comprises a file directory.

31. (Previously Presented) The system of claim 26, wherein the access methods comprise methods for one of storing, retrieving, searching, and removing object instance data in the persistent storage medium.

32. (Previously Presented) The system of claim 26, wherein the persistent storage system is an electronic catalog system.

33. (Canceled)

34. (Previously Presented) The system of claim 26, wherein the persistent storage structure further comprises a cache memory module for automatically storing object instance data that is accessed from the persistent storage medium based on the index.

35. (Previously Presented) The system of claim 26, wherein the persistent storage system further comprises means for automatically populating the persistent storage structure with object instance data that is input to the system.

36. (Original) An e-service that implements the system of claim 26 for providing a data management service based on a fee agreement or service level agreement.

37. (Canceled)

38. (Previously Presented) A computer-implemented method for managing an object and its persistent storage image, the method comprising the steps of:

receiving as input an entity definition, wherein the entity definition comprises a declaration of the object, one or more properties of the object, and a data type for each property;

parsing a logical structure of the declared object from the entity definition by a processor, wherein the logical structure includes hierarchical associations between the properties and the data types;

generating and maintaining automatically, by the processor, a mapping between an instance of the object and its persistent storage image based on the entity definition, wherein the persistent storage image is stored in a persistent medium;

generating automatically, by the processor, an interface within a persistent storage structure, wherein the interface comprises access object classes that are generated automatically to enable management of object instance data in the persistent storage structure, wherein each object is associated with a respective access object class for performing methods including a method for deleting the object instance data associated with the respective access object class;

generating automatically, by the processor, a database table within the persistent storage structure to store the object instance data; and

measuring automatically, by the processor, a frequency of accessing the instance of the object and, if it is determined that the measured frequency is above a preset threshold, storing the instance of the object in a cache.

39. (Previously Presented) The method of claim 38, further comprising the step of automatically measuring a frequency of searching by values of a property of the object.